Patent Claims

1.   A semiconductor laser,
characterized in that
5   it contains at least one absorbing layer (8) within the
laser resonator, said absorbing layer reducing the
transmission T_{Res} of the laser radiation (10) in the
laser resonator for the purpose of decreasing the
sensitivity of the semiconductor laser to disturbances
10   created by the radiation (9) fed back into the laser
resonator.

2.   The semiconductor laser as claimed in claim 1,
in which the absorbing layer (8) is situated in a node
15   of a standing wave that forms during operation of the
semiconductor laser in the laser resonator.

3.   The semiconductor laser as claimed in claim 1 or
2,
20   in which the reflectivity of the mirrors of the
resonator and the transmission T_{Res} of the laser
radiation during a resonator circulation are set so as
to produce a low sensitivity to disturbances for a wide
range of possible output powers of the semiconductor
25   laser.

4.   The semiconductor laser as claimed in one of
claims 1 to 3,
in which the semiconductor laser is a single-mode
30   laser.

5.   The semiconductor laser as claimed in one of
claims 1 to 4,
in which the semiconductor laser is a surface emitting
35   semiconductor laser (VCSEL).

6.   The semiconductor laser as claimed in one of

claims 1 to 4,
in which the semiconductor laser is a surface emitting
semiconductor laser with an external resonator
(VECSEL).

7.   The semiconductor laser as claimed in claim 5 or
6,
in which the surface emitting semiconductor laser
contains a Bragg mirror (4) and the absorbing layer (8)
is contained in said Bragg mirror (4).

8.   The semiconductor laser as claimed in one of
claims 1 to 7,
in which the absorbing layer (8) is a gallium arsenide
layer.

9.   The semiconductor laser as claimed in one of
claims 1 to 8,
in which the gallium arsenide layer is approximately
20 nm thick.

10.   The semiconductor laser as claimed in one of
claims 1 to 9,
which contains a plurality of absorbing layers within
the laser resonator.